



Refuge Reporter

Happenings at Shiawassee National Wildlife Refuge

Volume 7, Issue 1

Refuge Photo Contest Winners Announced October 8

By Becky Goche, Park Ranger

Twelve photographers submitted 39 photos in the 2003 Refuge Amateur Photo Contest. Nineteen photos were entered in the Wildlife/Plantlife category, seventeen in the Habitat category and three in the People category. One hundred and seven people voted for their favorite photos in each category on Saturday, September 6, during the Refuge Open House Weekend. First through third place prizes were awarded in each category. Prizes were donated by the Friends of Shiawassee NWR. In addition, there was a Refuge Manager's Choice and a Friends' Group Choice. Winners were:

Wildlife/Plantlife Category: 1st – Kim LeBlanc, St. Charles, MI; 2nd – Kim LeBlanc; and 3rd – Don Scribner, Vassar.

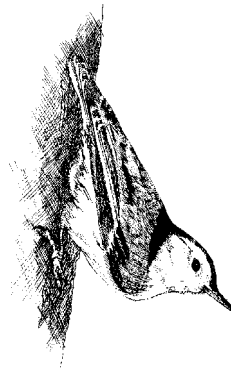
Habitat Category: 1st – Kim LeBlanc; 2nd – Steven Gasser, Saginaw, MI; and 3rd – Reid Barkley, Carol Stream, IL.

People Category: 1st – Rick Braidwood, Saginaw, MI; 2nd – Robert Grefe, Saginaw, MI; and 3rd – Steven Gasser.

Refuge Manager's Choice: Reid Barkley.

Friends' Group Choice: Tanya Ridella-Mehlos, Ann Arbor, MI.

Winning photos can be seen on the Refuge's website, along with rules for the 2004 Refuge Photo Contest.



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Special Points:

- A Winter Full Moon Hike is planned for Friday, February 6, 2004, beginning at 6:00 p.m. Meet at the parking lot at the west end of Curtis Road. Dress for the weather!
- Even though we don't groom our trails, the Refuge is a great place to cross-country ski and snowshoe! That is if we have enough snow!

Detour on Curtis Road due to Bridge Construction

Curtis Road is closed to traffic just west of the Refuge Headquarters due to construction on two small bridges. The road was closed in October and will remain that way until next spring or summer. Visitors can still get to the Ferguson Bayou trails on the west end of Curtis Road by following the detour. From Curtis the detour goes north one mile on Mower Road.

Turns west onto Moore Road for one mile and then goes south for one mile on Cresswell Road. This will bring you back to Curtis Road beyond the bridge construction. Just head west on Curtis Road and go about two miles to the parking lot.

If you have any questions, please call the Refuge at (989) 777-5930.

Ferns: A Century Perpetuates Eons

By David Peters, Tractor Operator

This past year, America's National Wildlife Refuge System celebrated its centennial, marking the establishment in 1903 of the very first Refuge, Pelican Island in Florida. The significance of this one hundred year endeavor must not be understated, as the over 500 existing National Wildlife Refuges now contain remnants of most of the diverse ecosystems that once composed the entirety of the American landscape. The natural history of the flora and fauna protected by these Refuges stretches back through the ages, so far that the century being celebrated is but a blink of a blue goose's eye.

The act of securing the continuance of the ecological past into the future is a subtle affair, and at Shiawassee National Wildlife Refuge (NWR), where this mission has been carried out for fifty of the Refuge System's one hundred years, there is no finer illustration than the ferns. From four foot tall ostrich ferns growing in luxurious stands that carpet the forest floor; to the delicate spinulose wood ferns growing solitarily at the base of tree; there are seven species of fern known to occur at Shiawassee. In addition to the ones already mentioned, the others are the sensitive, royal, lady, maidenhair, and marsh ferns.

The ferns and their allies, which include the horsetails and clubmosses, are some of the most ancient of plants. Their ancestors first appeared on earth over three hundred million years ago. In comparison, the first flowering plants; ancient relatives of oaks, asters and such; only began appearing some one hundred thirty million years ago. The original fern species were of much greater stature than their modern descendents, some tree-like in size, and they were far more abundant as well, forming dense fern "forests". Though these ancient species are long extinct, the ferns of today, which themselves appeared one hundred million years ago or so, carry on their lineage.

Though generally similar in appearance to flowering plants, the manner in which ferns reproduce sets them quite apart. Instead of seeds, ferns produce spores. Each plant produces hundreds of thousands of these minute particles. These spores are typically massed together in heaps of little cases, known as fruitdots, on the underside of the leaves. Once released from these cases, the spores drift to the ground, and if the moisture and temperature are proper, they begin to change form. Cells multiply and sexual development occurs. Then, as the final requirement for the beginning of a new fern plant, a drop of dew or rain falls on this former spore, triggering the fertilization process and providing a pathway of water between the male and female segments. The chances of all this actually transpiring are really quite rare, but when it does, a

root creeps downward into the soil and a stem reaches skyward.

Fern leaves, or fronds as they are sometimes known, typically emerge from the plant's perennial rootstock in a very characteristic fashion. Each sprout is essentially a completely formed leaf folded inward upon itself from its tips in a distinct coil shape, commonly known as a "fiddlehead" due to it's resemblance to the tuning end of a violin. Reaching full height and width is simply a matter of unrolling and enlarging. Each individual fern plant has both fertile leaves that bear spores, and sterile leaves that don't. Often, the two types are of the same shape or very similar, but in some species, such as the sensitive and ostrich ferns, they differ considerably from one another in appearance. From fiddlehead to fully grown, the fine, intricate leaves of ferns make them the most delicate appearing of plants. Even the royal fern, despite not having the "lacy" foliage most people associate with ferns, possesses an equally light and airy character.



Each fern species has its own ecological niche, from low swampy sites to dry rocky cliffs. Thus, the diversity of ferns found at Shiawassee is narrowly limited by the bottomland, clay based soils primarily found there. The notable exception is the recently acquired Cass River Unit in Bridgeport, which includes rich sandy woods. This is the only location on the Refuge where hiking trail visitors can observe lady fern, marsh fern, and maidenhair fern; with its unique narrow, hard, glossy black leafstalks. A visit to the Woodland Trail on the opposite end of the Refuge provides an opportunity to study the rest of Shiawassee's fern species, including the spinulose woodfern, which is one the small minority of ferns whose leaves remain green through the winter.

One hundred years ago, the United States of America had the wisdom to initiate a program to conserve the flora and fauna that are indicative of "this" land. In the century that has followed, the staff of the National Wildlife Refuge System has worked to expand and achieve this mission throughout the country, while much greater forces continue to precipitate the loss of these natural landscapes. The result of these efforts is not only places for wildlife to live and the public to enjoy, but the perpetuation of that which is so remarkable and ancient - the life of a continent, and its ferns.

The Development of the Friends Bookstore

By Doug Spencer, Refuge Manager

During this year the Refuge received a 'Challenge Grant' from the U.S. Fish and Wildlife Service for \$5,000 to develop a visitor contact site within the barn at the Cass River Unit, in Bridgeport Township. The barn was acquired during the sale of the Warner Tract to Shiawassee National Wildlife Refuge and has been used to store the fishing dock and some refuge equipment.

With funding of the \$5,000, the refuge was able to purchase building materials and slotboards with hanging attachments. This visitor contact site will be the new home for the 'Friends of Shiawassee NWR' bookstore and possible meeting/event area. Stipulations in the grant was that the 'Friends' would match the \$5,000 with matching funds or in-kind services. The Friends have been providing both. They hired a carpenter Randy Bartlett to remodel the interior of the barn. Most of the remodeling has been completed. At present, we are waiting on Consumers Energy to install the gas and electric service to

the barn. No date has been set for the grand opening of the 'Friends' bookstore, most likely this will take place in the spring. If you would like to assist the Friends in completing this project or greet the public and staff the bookstore in the future, please contact the Friends of Shiawassee NWR.



Slotboards and assorted attachments will allow a variety of merchandise to be displayed in the Friends Bookstore at the Cass River Unit. (Photo by Becky Goche)

Farewell Shirley, We'll Miss You!

By Shirley Adams, Administrative Technician

I have been the Administrative Technician at Shiawassee NWR for the last six years, but my time here is drawing to a close. My last day is November 12, 2003. I am transferring to another Fish and Wildlife Service position in Pierre, South Dakota where I'll work for the Ecological Services Field Office.

I learned a lot about the wildlife of the Refuge. I have many memories of my work at Shiawassee NWR, especially those involving hunts and hunters. It was my first real initiation to the hunting world and at times, I wasn't prepared for the things I saw. The first time I saw a harvested goose brought back to be checked gave me shivers. I remember being startled by a goose hunter who came into the office with camo paint on his face and dried goose blood on his hands. Another incident involved a hunter who brought in a maggot infested deer head...YUCK! I did come to understand the importance of the Refuge's hunting management programs, though.

I have even fonder memories of those hunters who came

in year after year, asking for me by name to get their deer permit information. I enjoyed meeting people from other states and countries who visited the Refuge. I worked with a great staff while on the Refuge. The Refuge volunteers and Friends of Shiawassee NWR members were great, too. Thank you all for the great memories! I will truly miss everything that happens on the Refuge year round!



Dale and Shirley Adams enjoy some Cajun cooking at their farewell party on November 1, 2003. (Photo by Becky Goche)

Full Moon Hike a Success, Another One Planned for February 6

Mandy Gasser, Friends of Shiawassee Board of Directors

The Refuge and the Friends of Shiawassee NWR sponsored a Full Moon Hike on October 10, 2003, at 7:00 p.m. This event celebrated National Wildlife Refuge Week and Shiawassee National Wildlife Refuge's 50th birthday. Over 60 people of all ages and backgrounds gathered at the trailhead located on Curtis Road. Following a brief introduction to the Refuge, they ventured into the night to enjoy the sight of the full moon and fellowship with other hikers.

Halfway through the trek, hikers enjoyed a fall snack of apple cider, fresh apples, and apple cider doughnuts provided by the Friends group. All in all, the hike was a huge success and the Refuge staff and Friends group are planning similar hikes in the future. Thank you to all who helped make the evening possible and to all who attended. We appreciate sharing the beautiful trails on Shiawassee NWR with our neighbors and friends from near and far.

Winter Full Moon Hike on February 6

A winter full moon hike is planned for Friday, February 6, 2004, beginning at 6:00 p.m. Everyone should meet at the

parking lot at the west end of Curtis Road. Dress for the weather and snow covered trails (we hope)! We recommend that you dress in layers so if you get too warm while walking, you can remove one.

Board Meetings

Board meetings are held on the second Wednesday of each month at 7:00 p.m. at Green Point ELC. Everyone is invited to attend.

For more information about the Friends group or to become a member, contact the Friends of Shiawassee NWR, P.O. Box 20129, Saginaw, MI 48602 or call Joe Davila, President at (989) 642-5117 or email: joedavila@chartermi.net. New Friends membership brochures are available at the Refuge Headquarters and at Green Point.

"Thank you to all who helped make the evening possible and to all who attended."

Projects for Wildlife and People

By Ed De Vries, Assistant Manager

Several refuge projects completed this year and a couple others in the process of being completed will benefit wildlife and people. Butch and David completed the restoration of the Eagle Marsh dike along the Cass River earlier this year. This dike formerly had a large break in it which didn't allow for water management in that unit. The inability to hold water wasn't good for fish, furbearers, or any other wildlife such as frogs and turtles which need stable water levels for a good part of the year. Now the entire unit, which includes North Marsh, Eagle Marsh, Moist Soil Units 3 and 4 is holding water for the fall and winter seasons. A spillway on the Cass River will allow spawning fish to enter the marsh during spring high water events, and stable water will enhance young fish development. Research has shown that large numbers of northern pike and crappie spawn in this marsh.

The pump at Grefe Pool was made operational through successful maintenance staff efforts to rehab the culvert and ditch leading from the Spaulding Drain to the pump. We are now pumping water into Pool 1A and the Grefe Pool, adding much-needed water to these units, thereby

making food and habitat available for use by waterfowl, amphibians, turtles, furbearers, aquatic insects and other invertebrates.

David and Butch built a parking lot at the corner of Moore and Cresswell to serve refuge permit hunters who formerly parked along the roadside at this corner. With the current road detour due to bridge repairs on Curtis Road, many refuge visitors heading to the Curtis Road parking lot have already passed by and seen this new facility.

A new pump station is being constructed along the Flint River, with completion scheduled for the end of December. This 2-way pump replaces a farm pump which was acquired when the refuge bought the land in 1953.

The Trinklein Ditch is being cleaned out using a contracted drag line. This ditch was so badly silted in that the pump had difficulty operating, as the ditch to the pump wasn't draining water efficiently. This ditch drains water off the tiled cropland fields to the south and west of the pump.

More projects are planned for 2004!

Muskrats - Can't Live with 'Em, Can't Live without 'Em

By Ed De Vries, Assistant Manager

With the arrival of fall rains in November the refuge was able to pump and gravity-feed more water into some of the wetland units. Having sufficient water in these wetlands is extremely important for many refuge critters as we enter the winter. Furbearers such as muskrats need an insulating cover of deep water in order to be able to feed and travel under the ice. This cover also provides cover and concealment from predators, so that the 'rats aren't exposed as they move about in otherwise dry wetlands or in travel to other areas. A good population of overwintering muskrats insures there will be a sufficient number of these cattail chewers in the spring and summer.

"Furbearers such as muskrats need an insulating cover of deep water in order to be able to feed and travel under the ice."

The past several years of low water levels have caused a dramatic increase in the spread of cattail on some of the refuge units, especially some of the pools. As long as there is enough water, muskrats can help us

maintain these marshes at a 50:50 ratio of open water/emergent plants by eating out openings in solid stands of cattails and bulrushes. Often times the eat-out areas will surround a muskrat lodge which appears as a small dome-shaped mound built of cattail stalks or other vegetation. Unfortunately, another lodging area for muskrats is the earthen dikes alongside the refuge pools. And this is where they cause us problems. Muskrats can help us but they can also hurt us. When muskrats burrow into our dikes creating a Swiss cheese affect, these weak spots may become dike blow-outs during the next flood. When we build new dikes or rehab old ones these days, we try not to create ditches at the toe end of the dikes, as those ditches can become muskrat highways. We also armor our dike slopes with riprap over filter fabric to serve as erosion protection as well as a muskrat barrier.

We try to strike a balance between too many muskrats and too few through our managed trapping program. Much like their relatives the meadow vole, muskrats are very prolific rodents bearing up to four litters of young per year. Each litter numbers up to 11 young which are weaned at about eight weeks. Those young born earlier in the year can potentially bear young themselves later in the same year, so it's easy to see how rapidly they can populate an area of suitable habitat. And that is why there is a need for population control. Natural population controls include predators such as coyote, raccoon, and mink, and there are also several diseases which will keep their numbers from overwhelming the earth. In marshes where their numbers

have become abnormally high these feisty little furbearers have also been known to become cannibalistic. Muskrats live an average of four years in the wild, so there is the potential for many generations from one female.

Muskrats are frequently seen on the refuge as they "dog paddle" across the surface of ditches, sloughs, and pools. Sometimes they can be seen eating grass along the edge of roadways and trails. Their eyesight is only fair so a person can get quite close to them, but beware – they can be grumpy and defensive, even on the best of days. Hopefully the next time you see one on the refuge you'll have a better idea of how we view these little critters. Sometimes a hindrance but oftentimes a help, their place in the wetland ecosystem is well-established and necessary.

Wetland, Grasslands, Streams -Oh My!

By Michelle Vander Haar, Private Lands Biologist

The private lands office at Shiawassee NWR has been busy with landowners who are interested in doing habitat restoration on their property. The U.S. Fish and Wildlife Service annually funds a program called Partners for Fish and Wildlife. This is a voluntary cost-share program in which individual landowners can have wetland restorations or enhancements, warm-season grassland establishment and stream bank restoration and riparian corridor work done on their property. The Partners program was started nationally in 1987 and started in Michigan in 1988. Since that time there have been over 6,000 acres of wetlands and 1,000 acres of grassland restored or enhanced and 5 miles of stream bank stabilized in Michigan (at least half of this work is accomplished through the Shiawassee NWR office).

Wetlands should be in areas where some type of drainage can be plugged or blocked and are meant to establish areas of 3 feet or less of water depth. Digging ponds or "push-outs" is not permitted in this program. Grassland establishment involves planting native, warm-season grasses and wildflowers in areas of 5 acres or more and must be adjacent to an existing or restored wetland area. Stream work has consisted mostly of bank stabilization and erosion control along with enhancing riparian corridors. You can contact me at (989) 777-5930, ext. 12, if you're interested in doing a project or have questions about the program.

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Hours: M - F, 7:30 a.m. to 4:00 p.m.

Refuge Reporter is published quarterly
by the Friends of Shiawassee NWR.

We're on the web!
[Http://midwest.fws.gov/
shiawassee](http://midwest.fws.gov/shiawassee)



*Celebrating a
Century
of Conservation!*



Teachers: New Classroom Program Available for Grades 4 through 6 this Winter!

by Becky Goche, Park Ranger

Have you ever wondered what it takes to “create” a National Wildlife Refuge (NWR)? Your students can help build a NWR in YOUR classroom this winter! And, yes, hardhats are required! “Let’s Build a Refuge!” is an interactive, hands-on program that lets your students build a NWR by placing pieces representing wildlife, habitat, visitors, staff and volunteers on a large photo backdrop. Before construction begins, your students will gain valuable background information on NWR’s through a video and group discussion. This program was tested on over 2,200 students in September, 2003, and received many positive comments.

“Let’s Build a Refuge!” will be available from January 12, 2004 through April 9, 2004. It is designed for students in grades 4 through 6 and works well with a maximum of 30 students. The two best things about this

program – it’s free and I will come into YOUR classroom! The only equipment you need to provide are a TV with VCR and an 8-foot table to use with the photo backdrop. I will bring the rest.

If you are interested in scheduling “Let’s Build A Refuge!” for your students, please call me at the Green Point Environmental Learning Center at (989) 759-1669. Encourage other teachers in your school to consider this program, too.

If at all possible, I prefer to schedule multiple programs at your school all in one day. I look forward to hearing from you!

Raccoon

